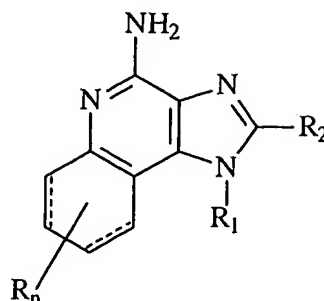


WHAT IS CLAIMED IS:

1. A compound of the formula (I):



(I)

wherein

10 **R<sub>1</sub>** is -alkyl-NR<sub>3</sub>- SO<sub>2</sub> -X-R<sub>4</sub> or -alkenyl-NR<sub>3</sub>- SO<sub>2</sub> -X-R<sub>4</sub> ;

**X** is a bond or -NR<sub>5</sub>-;

**R<sub>4</sub>** is aryl, heteroaryl, heterocyclyl, alkyl or alkenyl, each of which may be unsubstituted or substituted by one or more substituents selected from the group consisting of:

15 -alkyl;

-alkenyl;

-aryl;

-heteroaryl;

-heterocyclyl;

20 -substituted cycloalkyl;

-substituted aryl;

-substituted heteroaryl;

-substituted heterocyclyl;

-O-alkyl;

25 -O-(alkyl)<sub>0-1</sub>-aryl;

-O-(alkyl)<sub>0-1</sub>-substituted aryl;

-O-(alkyl)<sub>0-1</sub>-heteroaryl;  
 -O-(alkyl)<sub>0-1</sub>-substituted heteroaryl;  
 -O-(alkyl)<sub>0-1</sub>-heterocyclyl;  
 -O-(alkyl)<sub>0-1</sub>-substituted heterocyclyl;  
 5 -COOH;  
 -CO-O-alkyl;  
 -CO-alkyl;  
 -S(O)<sub>0-2</sub>-alkyl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-aryl;  
 10 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-substituted aryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-heteroaryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-substituted heteroaryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-heterocyclyl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-substituted heterocyclyl;  
 15 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>R<sub>3</sub>;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-O-alkyl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-alkyl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-aryl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-substituted aryl;  
 20 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-heteroaryl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-substituted heteroaryl;  
 -N<sub>3</sub>;  
 -halogen;  
 -haloalkyl;  
 25 -haloalkoxy;  
 -CO-haloalkyl;  
 -CO-haloalkoxy;  
 -NO<sub>2</sub>;  
 -CN;  
 30 -OH;  
 -SH; and in the case of alkyl, alkenyl, or heterocyclyl, oxo;

$R_2$  is selected from the group consisting of:

- hydrogen;
- alkyl;
- alkenyl;
- 5        -aryl;
- substituted aryl;
- heteroaryl;
- substituted heteroaryl;
- alkyl-alkyl;
- 10       - alkyl-O- alkenyl; and
- alkyl or alkenyl substituted by one or more substituents selected from the

group consisting of:

- OH;
- halogen;
- 15       -N(R<sub>3</sub>)<sub>2</sub>;
- CO-N(R<sub>3</sub>)<sub>2</sub>;
- CO-C<sub>1-10</sub> alkyl;
- CO-O-C<sub>1-10</sub> alkyl;
- N<sub>3</sub>;
- 20       -aryl;
- substituted aryl;
- heteroaryl;
- substituted heteroaryl;
- heterocyclyl;
- 25       -substituted heterocyclyl;
- CO-aryl;
- CO-(substituted aryl);
- CO-heteroaryl; and
- CO-(substituted heteroaryl);

30       each  $R_3$  is independently selected from the group consisting of hydrogen and C<sub>1-10</sub> alkyl;

R<sub>5</sub> is selected from the group consisting of hydrogen and C<sub>1-10</sub> alkyl, or R<sub>4</sub> and R<sub>5</sub> can combine to form a 3 to 7 membered heterocyclic or substituted heterocyclic ring;

n is 0 to 4 and each R present is independently selected from the group consisting of C<sub>1-10</sub> alkyl, C<sub>1-10</sub> alkoxy, halogen and trifluoromethyl,

5 or a pharmaceutically acceptable salt thereof.

2. A compound of claim 1 wherein X is a bond.

3. A compound of claim 2 wherein n is 0.

10

4. A compound of claim 2 wherein each R<sub>3</sub> is hydrogen.

5. A compound of claim 2 wherein R<sub>1</sub> is -(CH<sub>2</sub>)<sub>2-4</sub>- NR<sub>3</sub>- SO<sub>2</sub> -R<sub>4</sub>.

15

6. A compound of claim 2 wherein R<sub>4</sub> is selected from the group consisting of alkyl, aryl and heteroaryl that may be unsubstituted or substituted by one or more substituents selected from the group consisting of:

-alkyl;

-alkenyl;

20

-aryl;

-heteroaryl;

-heterocyclyl;

-substituted aryl;

-substituted heteroaryl;

25

-substituted heterocyclyl;

-O-alkyl;

-O-(alkyl)<sub>0-1</sub>-aryl;

-O-(alkyl)<sub>0-1</sub>-substituted aryl;

-O-(alkyl)<sub>0-1</sub>-heteroaryl;

30

-O-(alkyl)<sub>0-1</sub>-substituted heteroaryl;

-O-(alkyl)<sub>0-1</sub>-heterocyclyl;

-O-(alkyl)<sub>0-1</sub>-substituted heterocyclyl;

-COOH;  
 -CO-O-alkyl;  
 -CO-alkyl;  
 -S(O)<sub>0-2</sub>-alkyl;  
 5 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-aryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-substituted aryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-heteroaryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-substituted heteroaryl;  
 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-heterocyclyl;  
 10 -S(O)<sub>0-2</sub>-(alkyl)<sub>0-1</sub>-substituted heterocyclyl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>R<sub>3</sub>;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-O-alkyl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-alkyl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-aryl;  
 15 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-substituted aryl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-heteroaryl;  
 -(alkyl)<sub>0-1</sub>-NR<sub>3</sub>-CO-substituted heteroaryl;  
 -N<sub>3</sub>;  
 -halogen;  
 20 -haloalkyl;  
 -haloalkoxy;  
 -CO-haloalkoxy;  
 -NO<sub>2</sub>;  
 -CN;  
 25 -OH;  
 -SH; and in the case of alkyl, oxo.

7. A compound of claim 2 wherein R<sub>2</sub> is selected from the group consisting of  
 hydrogen; alkyl; alkyl-O-alkyl; (alkyl)<sub>0-1</sub> aryl, (alkyl)<sub>0-1</sub>-(substituted aryl); (alkyl)<sub>0-1</sub>-  
 30 heteroaryl; and (alkyl)<sub>0-1</sub>-(substituted heteroaryl).

8. A compound of claim 2 wherein  $R_2$  is selected from the group consisting of hydrogen,  $C_{1-4}$ alkyl, and  $C_{1-4}$ alkyl-O-  $C_{1-4}$ alkyl.
9. A compound of claim 2 wherein the dashed bonds are absent.
- 5 10. A compound of claim 1 wherein X is  $-NR_5-$ .
11. A compound of claim 10 wherein n is 0.
- 10 12. A compound of claim 10 wherein  $R_1$  is  $-(CH_2)_{2-4}-NR_3-SO_2-NR_5-R_4$ .
13. A compound of claim 10 wherein  $R_2$  is selected from the group consisting of hydrogen; alkyl; alkyl-O-alkyl; (alkyl)<sub>0-1</sub> aryl, (alkyl)<sub>0-1</sub>-(substituted aryl); (alkyl)<sub>0-1</sub>-heteroaryl; and (alkyl)<sub>0-1</sub>-(substituted heteroaryl).
- 15 14. A compound of claim 10 wherein  $R_2$  is selected from the group consisting of hydrogen,  $C_{1-4}$ alkyl, and  $C_{1-4}$ alkyl-O-  $C_{1-4}$ alkyl.
15. A compound of claim 10 wherein  $R_4$  and  $R_5$  join to form a 3 to 7 membered heterocyclic or substituted heterocyclic ring.
- 20 16. A compound of claim 10 wherein  $R_4$  and  $R_5$  join to form a substituted or unsubstituted pyrrolidine, morpholine, thiomorpholine, piperidine, or piperazine ring.
- 25 17. A compound of claim 16 wherein  $R_3$  is hydrogen.
18. A compound of claim 15 wherein  $R_2$  is selected from the group consisting of hydrogen; alkyl; alkyl-O-alkyl; (alkyl)<sub>0-1</sub> aryl, (alkyl)<sub>0-1</sub>-(substituted aryl); (alkyl)<sub>0-1</sub>-heteroaryl; and (alkyl)<sub>0-1</sub>-(substituted heteroaryl).
- 30 19. A compound of claim 16 wherein  $R_2$  is selected from the group consisting of hydrogen,  $C_{1-4}$ alkyl, and  $C_{1-4}$ alkyl-O-  $C_{1-4}$ alkyl.

20. A compound of claim 10 wherein R<sub>4</sub> and R<sub>5</sub> are alkyl.
21. A compound of claim 20 wherein R<sub>3</sub> is hydrogen.
- 5 22. A compound of claim 20 wherein R<sub>2</sub> is selected from the group consisting of hydrogen; alkyl; alkyl-O-alkyl; (alkyl)<sub>0-1</sub> aryl, (alkyl)<sub>0-1</sub>-(substituted aryl); (alkyl)<sub>0-1</sub>-heteroaryl; and (alkyl)<sub>0-1</sub>-(substituted heteroaryl).
- 10 23. A compound of claim 10 wherein R<sub>3</sub> is hydrogen.
24. A compound selected from the group consisting of:  
N<sup>2</sup>-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-2-thiophenesulfonamide;  
15 N<sup>1</sup>-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-1-benzenesulfonamide;  
N<sup>8</sup>-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-8-quinolinesulfonamide;  
N<sup>1</sup>-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-5-(dimethylamino)-  
20 1-naphthalenesulfonamide;  
N-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]methanesulfonamide;  
N<sup>1</sup>-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-1-benzenesulfonamide;  
25 N<sup>8</sup>-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-8-quinolinesulfonamide;  
N<sup>2</sup>-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-2-thiophenesulfonamide;  
N<sup>2</sup>-[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-2-thiophenesulfonamide;  
30 N<sup>1</sup>-[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-1-benzenesulfonamide;

- N<sup>8</sup>-[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-8-quinolinesulfonamide;
- N<sup>1</sup>-[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-5-(dimethylamino)-1-naphthalenesulfonamide;
- 5 N<sup>1</sup>-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-4-fluoro-1-benzenesulfonamide;
- N<sup>1</sup>-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-3-fluoro-1-benzenesulfonamide;
- 10 N-{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}methanesulfonamide;
- N<sup>2</sup>-{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}-2-thiophenesulfonamide;
- N<sup>1</sup>-{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}-5-(dimethylamino)-1-naphthalenesulfonamide;
- 15 N-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}methanesulfonamide;
- N<sup>2</sup>-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-2-thiophenesulfonamide;
- N<sup>1</sup>-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-5-(dimethylamino)-1-naphthalenesulfonamide;
- 20 N<sup>1</sup>-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-4-fluoro-1-benzenesulfonamide;
- N<sup>1</sup>-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-3-fluoro-1-benzenesulfonamide;
- 25 N<sup>1</sup>-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-1-benzenesulfonamide;
- N<sup>8</sup>-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-8-quinolinesulfonamide;
- N<sup>2</sup>-{4-[4-amino-2-(4-methoxybenzyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-2-thiophenesulfonamide;
- 30 N-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]methanesulfonamide;



- N<sup>2</sup>-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-2-thiophenesulfonamide;
- N<sup>1</sup>-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-5-(dimethylamino)-1-naphthalenesulfonamide;
- 5 N<sup>1</sup>{-4-[4-amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-1-benzenesulfonamide;
- N<sup>1</sup>{-4-[4-amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-5-(dimethylamino)-1-naphthalenesulfonamide;
- 10 N'-{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}-*N,N*-dimethylsulfamide;
- N'-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-*N,N*-dimethylsulfamide;
- N'-{4-[4-amino-2-(4-methoxybenzyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-*N,N*-dimethylsulfamide;
- 15 N'-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-*N,N*-dimethylsulfamide;
- N'-{4-[4-amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-*N,N*-dimethylsulfamide;
- 20 N<sup>4</sup>{-4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-4-thiomorpholinesulfonamide;
- N<sup>1</sup>{-4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-1-pyrrolidinesulfonamide;
- N<sup>1</sup>-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-4-fluoro-1-benzenesulfonamide;
- 25 N-[4-(4-Amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]methanesulfonamide; and
- N-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}phenylmethanesulfonamide.
- 30 25. A compound selected from the group consisting of:

N<sup>1</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-

5-(dimethylamino)-1-naphthalenesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 5-(dimethylamino)-1-naphthalenesulfonamide;  
 N<sup>2</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 2-thiophenesulfonamide;  
 N-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 phenylmethanesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 1-benzenesulfonamide;  
 N-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]  
 Methanesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 3-nitro-1-benzenesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 3-amino-1-benzenesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 4-nitro-1-benzenesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 4-amino-1-benzenesulfonamide;  
 N<sup>5</sup>-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 5-isoquinolinesulfonamide  
 N-[4-(4-Amino-2-(4-methoxybenzyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 methanesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-1-butanesulfonamide;  
 N<sup>1</sup>-{4-[4-Amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-  
 1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-4-fluoro-1-benzenesulfonamide;  
 N<sup>1</sup>-[4-(4-Amino-2-phenyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-  
 4-fluoro-1-benzenesulfonamide; and  
 N-[4-(4-Amino-2-phenyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]  
 methanesulfonamide.

26. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 and a pharmaceutically acceptable carrier.
- 5 27. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 2 and a pharmaceutically acceptable carrier.
28. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 10 and a pharmaceutically acceptable carrier.
- 10 29. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound of claim 1 to the animal.
30. A method of treating a viral disease in an animal comprising administering an effective amount of a compound of claim 1 to the animal.
- 15 31. A method of treating a neoplastic disease in an animal comprising administering an effective amount of a compound of claim 1 to the animal.
32. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound of claim 2 to the animal.
- 20 33. A method of treating a viral disease in an animal comprising administering an effective amount of a compound of claim 2 to the animal.
34. A method of treating a neoplastic disease in an animal comprising administering an effective amount of a compound of claim 2 to the animal.
- 25 35. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound of claim 10 to the animal.
- 30

36. A method of treating a viral disease in an animal comprising administering an effective amount of a compound of claim 10 to the animal.

37. A method of treating a neoplastic disease in an animal comprising administering an  
5 effective amount of a compound of claim 10 to the animal.